

THE OHIO JUNIOR ACADEMY OF SCIENCE

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As every one connected with the Ohio Academy of Science knows, its officers and Council have been placing special emphasis upon making the Academy an organization which will serve all the scientific interests of the state. With this end in view, one of the projects recently undertaken by the Academy has been the organization of a Junior Academy of Science. Since most members of the Academy are probably not familiar with the scope of the Junior Academy's activities an outline of what it is intended to accomplish may be of interest.

Those who have been responsible for developing the Junior Academy have proceeded on the principle that the chief purpose in establishing such an organization is to aid in discovering and rewarding scientific ability among high school students. It has also been assumed that discovery and initial stimulation of talent among these students is in the hands of high school science teachers; that reward and encouragement toward continued effort is the function of the Ohio Academy of Science.

Past experience in the form of an earlier attempt to develop a Junior Academy revealed that an elaborate organization involving clubs, student officers, a student council, and all the other machinery made use of by their elders is more of a distraction to the students and a burden to their instructors than a help. Consequently, the present plans do not call for any organization among the high school students themselves. Their role is solely that of students interested in science who develop projects under the guidance of their instructors. In line with this, our plan calls for the students to be made junior members of the Ohio Academy of Science, and for the various activities of the junior members of the Academy to be directed by a Junior Academy Council, made up of college and high school science instructors. If conditions in individual instances favor some form of local organization, such as a science club, it may be established or advantage may be taken of an existing club but such action is a purely local measure. The Junior Academy as such takes no part in it.

High school science instructors and others whose primary interest lies in the development of science at the secondary school level, instead of belonging to a Junior Academy of Science, become members of the Ohio Academy of Science. A separate section, the Science Education Section, has been organized especially for this group of members, although they can belong instead to another section of the Academy if they care to. The purpose of the Science Education section is two-fold. In the first place, it serves as a means of bridging the gap between science teachers on the high school level and those on the college level. It also affords an opportunity for high school teachers of science throughout the state to exchange their views. Groups of teachers are usually organized on a strictly regional basis and so provide opportunity for an exchange of views on a regional basis only. There is ordinarily no opportunity for an exchange of views on a statewide basis. This opportunity the Ohio Academy of Science hopes to provide.

From all of this it can be seen that there is, in reality, no Junior Academy in the usual sense of the word. Instead, what we actually have is a Junior Division of the Ohio Academy of Science for high school students and a Science Education Section of the Academy for high school teachers. By these two devices the Ohio Academy is taking one more step toward welding the science minded persons of the state into a single unit, one that can truly be considered an Ohio Academy of Science.

The operation of the Junior Academy plan is as follows: The state has been divided into six districts, each centering about a college or university. Five of the regions have as a center one of the five state universities. The sixth region has Muskingum College as its center. Each year high school students interested in science who have developed some special project of a scientific character, exhibit the results of their efforts at the central institution in their district on what is termed a Science Day. This day is usually set sometime in April. It is supposed to come not later than two weeks before the annual meeting of the Ohio Academy of Science. Arrangements for the district Science Day are made by a committee of high school teachers with the cooperation of a representative from the science staff of the regional institution. Projects exhibited are expected to illustrate some phase of the following major fields of science: Botany, Chemistry, Geology, Physics, Zoology, Mathematics or applied subdivisions not readily limited to any one field, such as photography, conservation, agriculture, health, consumer science. The exhibits may be in the form of collections, experiments, apparatus or papers, although papers are not encouraged. All exhibits are intended to represent something the student has done in addition to class work. Each student entrant pays a fee of 50 cents. This fee together with the fact that he has presented an exhibit makes him a Junior Member of the Ohio Academy of Science. He has no voting privileges and can hold no office. Projects are judged by members of the science staff of the district institution working in pairs. Awards made are rated as satisfactory, good, excellent, superior. Certificates attesting the appropriate awards are given to exhibitors.

Winners of a superior award in the districts are entitled to enter their exhibits in a statewide Academy of Science Day held in connection with the annual meeting of the Ohio Academy of Science. Exhibitors at an Academy Science Day must belong to one of the four upper high school grades. At district exhibits pupils from the seventh and eighth grades may be admitted at the discretion of the district committee. There is no fee for entering the Academy exhibit. Exhibits are judged by teams made up of one University and one high school science instructor. Awards are the same as for the district, except that no grade of satisfactory is given. A certificate bearing the seal of the Ohio Academy of Science is given each exhibitor. In addition, scholarships are available in the state universities to outstanding exhibitors. In order to be eligible for a scholarship the student must have received a superior award in the state Science Day, must have satisfactorily passed a Science Achievement Test supervised by the Academy, and must have a B average in high school.

The judging of exhibits upon which awards are based involves a personal interview with the student as well as an inspection of his entry. The interview is directed toward discovering the student's understanding of his particular project, the field with which it is allied, as well as his interests and personality. Quality of the exhibit and an intelligent grasp of its significance weigh heavily in making a decision. Decisions of the judges in the form of certificates of award are announced at an Awards Meeting at which time the certificates are handed to the students. At the district meetings a representative of the district institution usually extends greetings and a member of the science staff speaks briefly on some scientific topic. At the Academy Meeting the president of the Academy or his representative extends the greetings of the Academy and speaks informally to the students and their instructors and friends.

Since accomplishment among high school students reflects the influence of their high school instructors, an attempt has been made to recognize the important role played by the high school teachers. Special recognition is each year given to one teacher from each district who has shown outstanding success in developing an interest in science among high school students. The award is a paid-up membership for one year in the American Association for the Advancement of Science

with a choice of either Science or Scientific Monthly. The selected teachers are invited to be guests of the Ohio Academy at its annual dinner. A letter, calling his attention to the fact that one of his teachers has been selected for special recognition by the Ohio Academy of Science, is sent to the teacher's superintendent and he is congratulated for having such a teacher on his staff.

The Junior Academy Council, which is the executive body for the Junior Academy activities, is composed of the chairman of the Science Education Section, its membership committeeman, a college instructor and a high school instructor from each district, the editor of the Newsletter, and the executive secretary of the Junior Academy. The district institution representative, the editor and the secretary serve for a number of years. High school district representatives serve one year, the Science Education Section representatives serve two years. The Council functions under the authority of the Ohio Academy. Within the limits of this authority it makes all regulations for the Junior Academy.

By way of stimulating interest and keeping various high school science teachers informed of activities, a Newsletter is issued four times a year and sent without charge to all high school science teachers. At least one issue per year is sent to superintendents and principals.

The reaction of both students and teachers to this Junior Academy plan has been most encouraging during the two years it has been in operation on a statewide basis. The first Academy Science Day was held in connection with the Denison University Meeting of the Academy in 1949. On that occasion 78 high school students entered exhibits, each of them having previously been awarded a superior rating in a district Science Day exhibit. The total number of entrants in the district exhibits held that year was about 600. The Science Day held in connection with the 1950 meeting of the Academy at Capital University had 130 entrants and the district Science Days of that year had a total entry list of 759. The quality of exhibits in both years was remarkably high. In the past two years district Science Days were held at the five state universities only, but this year Muskingum College will be added to the list.

In this connection it should be said that the state universities were selected as initial Science Day centers because they are so placed geographically as to lend themselves to a well balanced division of the state into districts. It was felt that if the Junior Academy took root at these centers, additional colleges or universities could be selected as growth occurred. Growth has occurred and it is for this reason that Muskingum College was asked to serve as an additional center. As rapidly as conditions make it necessary other institutions will be selected and it is hoped that those chosen will find it possible to serve.

An encouraging aspect of the Junior Academy plan is the generous support which each of the five state universities has given to the scholarship feature of the plan. Each university has set aside a certain number of tuition scholarships. The understanding between the universities and the Academy is that within the limits of the quota each university has set, each one will stand ready to give scholarships to those students who have been awarded a scholarship privilege by the Academy. This scholarship feature of the Junior Academy activities is one in which all of the colleges and universities of the state can immediately take part. The plan as just outlined is quite simple and the Junior Academy Council is anxious to have as many as possible of the colleges and universities join those now associated with the plan.

Just a word regarding finances. As mentioned before, each student who enters a district exhibit pays a fee of fifty cents. Part of this is retained for district expense and part is used for statewide expenses. The district institutions also contribute toward expenses incurred in the district. The Academy of Science appropriates funds to aid in defraying general expenses. The Newsletter is the largest item of general expense. Its printing is paid out of the Academy funds.

Mailing costs of the Newsletter have been assumed by the districts. The districts also defray the costs of their Science Days. Included is a complimentary luncheon for teachers and a variety of incidental expenses. The general fund for the state, in addition to paying for the Newsletter, covers the cost of printing certificates of award, providing ribbons and seals used on the certificates, as well as various other incidental expenses connected with the state as a whole. The general fund also pays the membership fees in the American Association for the select group of teachers and their Academy dinner charges.

Finally a word of deep appreciation is due the officials of the respective institutions which serve as district centers for the generous manner in which they have supported the Junior Academy both by helping to defray local expenses and by showing a real personal interest in the undertaking. A similar word of great appreciation is, of course, due the officials and the Council of the Ohio Academy of Science for their whole hearted interest in the Junior Academy, an interest expressed both by generous financial support and by personal efforts.

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